



State of Vermont

Web: <https://vtrans.vermont.gov/operations>**District Maintenance & Fleet Division**

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**Standard Operating Procedure:****Pesticide Application****Effective Date:****3/6/2023****VTrans Authorized Signature:**

DocuSigned by:

*Wayne Gammell*

Director, District Maintenance &amp; Fleet Division

## VTRANS PESTICIDE APPLICATION STANDARD OPERATING PROCEDURE (SOP)

### I. INTRODUCTION

#### A. PURPOSE STATEMENTS

Pesticide (including Herbicide) application is a preventative maintenance task performed on a recurring basis with the goal in mind of protecting infrastructure as well as the safety of the travelling public and maintenance staff, all while creating a potential for cost savings and protecting water resources. The VTrans Pesticide Application SOP directs pesticide application to:

- Maintain safe roads for the traveling public and VTrans staff by ensuring adequate sight distance
- Prevent infrastructure deterioration by allowing guardrail to be inspected
- Reduce energy, equipment, and personnel costs and work health and safety exposure associated with mechanical methods of vegetation removal
- Protect water quality, wildlife habitats and natural ecology of the highway corridor by using conservative discretion and only applying pesticides where our permit allows
- Preserve the scenic qualities of the highway corridor
- Prevent public and internal misconceptions related to pesticide spraying restrictions governed by the Agency of Agriculture, Food and Markets (AAF&M)
- Implement informative, inclusive, and effective “no spray” public education, outreach and demarcation

#### B. GUIDING PRINCIPLES

- Create consistent pesticide application guidance throughout the state
- Comply with the AAF&M VTrans pesticide permit regulations without exception
- Limit pesticide application to those areas where application is authorized by the AAF&M Permit and is necessary for the safety of the traveling public, maintenance staff and long-term infrastructure protection
- Create mechanisms and standards for applying pesticides statewide near environmentally sensitive areas, essential water resources, and wildlife habitats

#### C. TARGET AUDIENCE

The intended audience of this document are District Maintenance & Fleet Division (DMF) certified pesticide applicators (Applicators). The objective is to improve on and clarify the process of pesticide application that is regularly performed statewide. Additionally, this SOP will serve as a resource for VTrans Construction and Aviation staff, VTrans Contractors, or any other Vermont certified applicator expressly authorized to make applications by the VTrans DMF Pesticide Program Administrator (Program Administrator) in State Rights-of-Way (ROW) or non-ROW landholdings for activities covered under the AAF&M Permit.

## D. LEVEL OF SERVICE & PERFORMANCE EXPECTATIONS

In addition to the General Standards noted in this SOP, the following are expected:

- Pesticide applications will be completed in the spring and summer seasons between May and mid-July and are reflected in the annual spray schedule for rotation of spray units within the District
- Applications made will be compliant with all AAF&M Permit Regulations
- VTrans applicators will maintain their own licensure and attend all required trainings with guidance from the DMF Program Administrator
- Minimize pesticide usage while still effectively controlling vegetation growth around VTrans infrastructure (ex: starting pesticide application early enough in the spring before plants go to seed)
- VTrans pesticide permit does not allow for use of pesticides for the sole purpose of “treating invasive plants” unless the use satisfies the specific requirements listed in the VTrans pesticide permit

**Applicators must have Supervisor support for dedicated marking and spraying time during the spring and summer months. Applicators will be expected to adhere to all regulations. Without support for this program and meeting expectations, pesticide application may not be effective, the safety of both applicators and the public could be put at risk and VTrans could be exposed to increased liability or enforcement from AAF&M.**

**The goal is to have every applicator applying their skills and knowledge in all aspects of the program. Both certified applicators must share roles and responsibilities such that each takes the “lead” on the various tasks involved in implementing the program. They will switch roles (mix/fill/drive/spray/clean truck/track-report/mark roads/etc.) all within the same spray season.**

## II. GENERAL STANDARDS

Implementation and management of the Statewide Pesticide Application SOP is intended to provide a uniform guidance for pesticide application within all areas of the VTrans ROW, non-ROW landholdings, (i.e., state owned airports) and other special project areas where expressly allowed by the DMF Program Administrator. Permitting responsibilities reside with the AAF&M. The ROW pesticide permit is issued on an annual basis by the AAF&M. This SOP will serve as a supporting document to be submitted annually with the VTrans Spray Permit Application. The following basic guidance and conditions will be applied consistently across VTrans to ensure uniform resource regulatory permit compliance throughout the state.

### A. ANNUAL MEETINGS & TRAININGS

Pesticide pre- and post-season meetings shall be organized by the DMF Program Administrator annually to gain feedback on functions of the spray equipment, judge what is working and what is not as far as all topics of this SOP are concerned, and for applicator credit in order to maintain licensure. Applicator attendance during pre- and post-season meetings is required. Each meeting will be worth three (3) total credits toward an Applicator’s pesticide license. Each Applicator will need to gain fifteen (15) total credits over a five (5) year period to maintain their license. If all pre- and post-season meetings are attended, maintaining licensure will not be an issue. The DMF Program Administrator will send out invitations for each meeting, record Applicator attendance, and report to the AAF&M to ensure credit records are accurate. Additionally, the DMF Program Administrator will be required to hold CORE and CAT 6 (ROW) certifications in order to better understand spray operations and take agency in making decisions for VTrans.

Applicators should attend additional trainings when available to enhance awareness of relevant subject matter and shall attend trainings when needed to maintain licensure. It is the responsibility of each Applicator to find and fund such additional trainings. (AAF&M/UVM Cooperative Extension trainings, pesticide contractor trainings, etc.). AAF&M will hold monthly refresher trainings during the spray season for 1 credit hour each as needed.

**The DMF Program Administrator will fund initial and annual DMF Applicator licensing fees. Each District will be responsible for purchasing of the CAT 6 ROW and CORE manuals. District supervisors must allow time (within reason) for new applicators to study for their certifications during work hours. The responsibility to recruit new applicators and train them (or arrange for training) is the DMF Program Administrator's with support from General Managers and Applicators with the goal in mind for each District to be two (2) applicators total. If, when the spray season begins a District does not have two certified applicators, the annual spray schedule will reflect these deficiencies and may account for the sharing of personnel between Districts. Districts are encouraged to request a second applicator from another District if needed, but this is ultimately at the District Supervisor's discretion.**

## **B. PESTICIDE PERMIT**

The VTrans Right of Way (ROW) Pesticide Permit, issued by the AAF&M, is applied for annually by the end of February and generally issued in early May. VTrans pesticide applicators, or any party spraying under the VTrans Pesticide Permit, shall not begin pesticide applications until the annual permit is distributed to them. Spray requests by internal or external entities can be made to the DMF Program Administrator if the need arises.

Applicators must carry a physical or electronic copy of the permit with them while spraying, along with relevant chemical Safety Data Sheets (SDS). These materials can be carried in hard copies but will also be stored electronically on each Pesticide iPad. It is the Applicator's sole responsibility to study and know the constraints of the permit and follow them without exception. Applicators will reference the most recent version of the permit (labeled with the current year), if questions arise, for the most up-to-date regulations. Examples of changing regulations could include surface water and well buffers, allowable chemicals and their application rates, and invasive species and when it is appropriate to treat for them. AAF&M will conduct on site visits with Applicators to verify permitted mixtures are being sprayed.

**Pesticides shall not to be used for the sole purpose of "treating invasive plants" unless the use satisfies the specific requirements listed in the AAF&M Permit.**

The following checklist will be completed on an annual cycle by the DMF Program Administrator and Applicators:

### **Pre-Spray Season (February – early May):**

#### Applicator:

- Attend Pesticide pre-season meeting/training with AAF&M for license credit
- Pick up truck-mounted spray units from Central Garage (CG) at direction of DMF Program Administrator
- Work with TeeJet and Chemical Containers Inc on testing and calibrating all spray equipment if needed
- Complete Pesticide Certification license renewal paperwork and submit to DMF Program Administrator

#### Program Administrator:

- Prepare and coordinate pesticide public notice with VT newspapers and radio stations (copy to applicators)
- Activate pesticide iPad service
- Ensure the Pesticide No Spray map is working on ArcGIS Online
- Prepare current year permit application and submit to AAF&M in March
- Send new pesticide permit out to Applicators when approved/signed by AAF&M
- Prepare with CG to have skid units ready for installation and make them aware of pre-season meeting date
- Create District skid unit rotation schedule and distribute to District Management and applicators
- Schedule Pesticide Pre-season meeting (combined pesticide skid-unit install/training)
- Conduct pre-season meeting/training with AAF&M for applicator credit
- Hand out pesticide iPads at pre-season meeting
- Coordinate Applicator pickup and installation of spray units from CG and training

**During the Spray Season (May – Mid-July):**Applicator:

- Communicate with, and send weekly spray usage reports to AAF&M and Program Administrator
- Transfer spray unit console usage data to Microsoft Teams on a regular basis (once a route is complete)
- Notify DMF Program Administrator if additional chemical needs to be ordered

Program Administrator:

- Pay public notice invoices
- Pay chemical invoices from Asplundh as they come in from the Districts
- Respond to “no spray” requests and enter them into the iPad ArcCollector map
- Coordinate with Applicators and AAF&M throughout the season

**Post-Spray Season (September – January):**Applicator:

- Attend post-season meeting/training with AAF&M for license credit
- Coordinate demobilization of spray equipment with DMF Program Administrator and CG in compliance with State of Vermont AAF&M Regulations.

Program Administrator:

- Schedule and conduct Pesticide Post-Season meeting, collect iPads and all boxes, chargers, and car chargers; note anything that is missing and replace it
- Suspend iPad service
- Store spray units at the Dill Building to overwinter
- Coordinate with the District to recruit new pesticide applicators
- Conduct review of this Pesticide Application SOP and update in coordination with AAF&M and DMF as necessary

**C. PESTICIDE IPAD MAPPING**

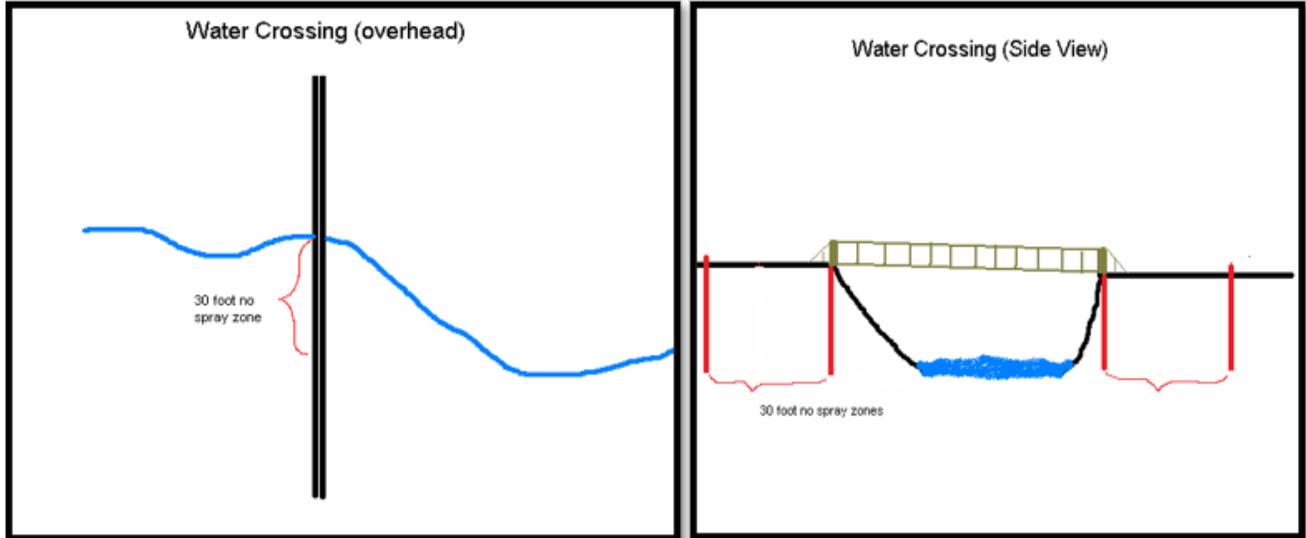
The Pesticide “No Spray” Map can be referenced on each Applicator’s Pesticide iPad. This map allows Applicators to quickly reference surface water, public, and private well buffers, Applicator generated “no spray” areas based on in-field observations or requests received at VTrans (i.e., organic farmer), previous year application areas, and guardrail that can be sprayed. This map shall be used as a guide for spraying, but never as a complete substitute for Applicator discretion. Each Applicator must verify what their iPad is showing them is accurate in the field. The “No Spray” Map also allows Applicators to edit “No Spray” areas in real time to update the map with on-site conditions.

Pesticide iPads are managed by the DMF Program Administrator, who will distribute and collect the iPads prior to, and at the end of each spray season. Pesticide iPads are not the property of the District.

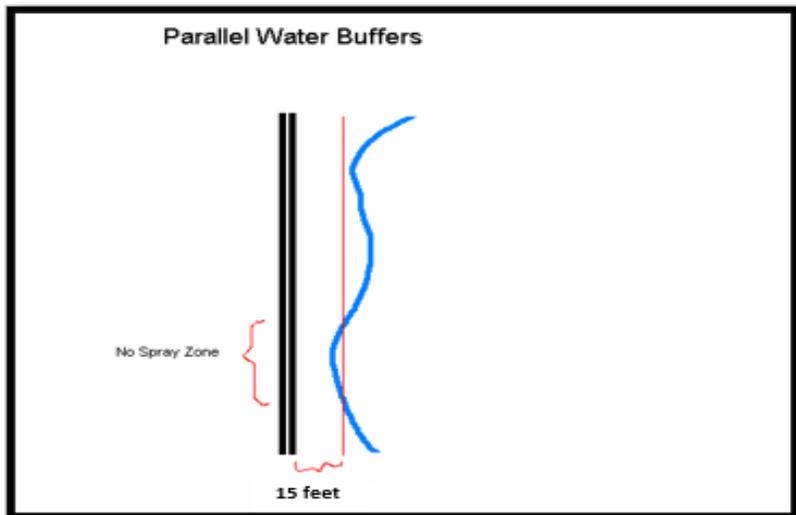
**D. “NO SPRAY” MARKINGS**

Prior to each spray season and following snow melt, Applicators in each District shall mark “start” (single hash mark) and “stop” (double hash mark) lines on the road with spray paint for all perpendicular water crossings, parallel water buffers, and water supplies. The following parameters outlined in the VTrans Pesticide Permit will dictate on-road marking:

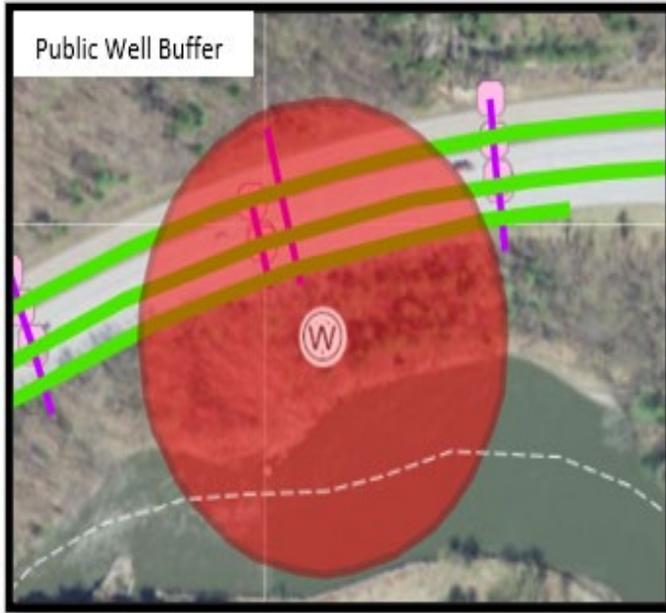
**Perpendicular Water Crossing:** A “no spray” zone defined as 30 feet from a perpendicular stream/river/lake top of bank’s edge. These are electronically generated on the Pesticide iPads and shall be marked with on-road single (start) and double (stop) spray paint hashes.



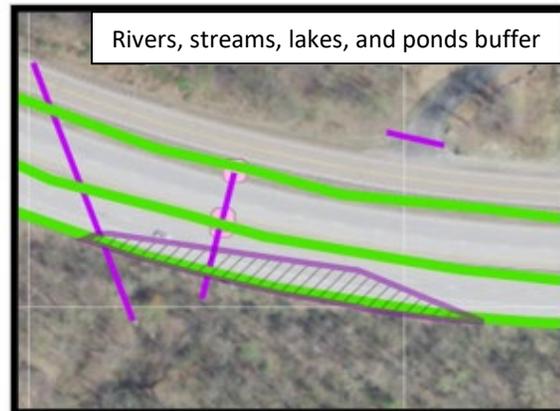
**Parallel Water Buffers:** A “no spray” zone defined as 15 feet from a parallel stream/river/lake top of bank’s edge. These are electronically generated on the Pesticide iPads and shall be marked with on-road single (start) and double (stop) spray paint hashes.



**Water Supplies (Wells and Surface Source Protection Areas):** A “no spray” zone defined as a public (250’ buffer) or private (150’ buffer) well, or a surface source protection area (150’ buffer on iPad map). These are electronically generated or manually added on the Pesticide iPads and shall be marked with on-road single (start) and double (stop) spray paint hashes.



**Other “No Spray” Zones:** Public request or electronically generated “no spray” areas. These can vary in size and purpose (i.e., organic farms, non-surface source protection areas, other sensitive areas). These areas are marked electronically on the Pesticide iPads by the DMF Program Administrator or by Applicators. For these areas, it will be up to the discretion of the Applicator to determine if on-road marking with paint is appropriate.



**“No spray” paint markings should be made conservatively to prevent over spray into these restricted no-spray zones. It is essential that these road markings be made annually each spring, prior to pesticide application, to gain knowledge on the most recent annual water levels and to refresh general familiarity of these areas. Applicators must use their judgement regarding water levels when they marked them versus when they are spraying. Re-evaluation and possible re-marking of certain no spray zones may be necessary if there are recent major weather events such as heavy rains resulting in increased water levels at time of spraying. Please reference the above diagrams created by the AAF&M to accurately mark “start” and “stop” lines on the road for no spray zones near surface waters.**

## **E. METHODS AND EQUIPMENT FOR PESTICIDE APPLICATION**

Each Applicator is responsible for understanding the functions of each type of pesticide application equipment used. The complete list of VTtrans pesticide related equipment is as follows. Alternative means of applying pesticides shall obtain prior approval from the DMF Program Administrator.

- Three (3) Pesticide Skid Spray Truck Mounted Units (built by Chemical Containers, Inc.)
- One (1) Pesticide Skid Spray Truck Mounted Unit (built by VTtrans DMF staff)
- Backpack Application Equipment
- Other: smaller truck mounted units, other custom spray units, etc.
- Nine (9) Laser Rangefinders (one per District)
- Nine (9) Pesticide iPads (with wall and car chargers for each)

DMF plow trucks are utilized to mount the pesticide spray units employed for ROW guardrail application. Each spring, the selected plow trucks will be made ready for the unit installation, first by the District in question removing their plow and clearing the flatbed, then by CG in Berlin installing the spray units and electronics into each truck. Maintenance of, and training on, the units will be the responsibility of the DMF Program Administrator to track, facilitate, and fund; a contract exists for the purchasing replacement parts for these units as needed.

Equipment maintenance, pre-season testing, and calibration will be performed at CG in Berlin VT as these will be the same mechanics familiar with installation of the units. Temporary alterations to the interior/exterior of each truck will be necessary to install the spray units; after each spray season, the units will be removed, and the trucks put back to how they were prior to installation. No significant permanent alterations will be made to the district trucks.

The essential function and purpose of each spray unit is to accurately apply and track pesticides, collect and store data, and provide a more hands on approach to our pesticide operations as opposed to contracting out this service. Ultimately, the use of these units will be a cost savings and provide a better result than the alternative. The cheat sheet for basic spray unit operation can be referenced at any time on each Applicator’s Pesticide iPad. Contact the DMF Program Administrator if a physical copy is needed.

**It is imperative that the operation of these trucks always involve two employees who are both Vermont Certified Pesticide Applicators, and at least one employee familiar with the local roads.**

Data collected daily is stored and transferred via a USB flash drive connected to the GPS mapping console of each unit’s cab mounted electronic system. This data must be transferred daily, weekly, or once a “route” is complete to ensure spray data is not lost. The data itself will be uploaded to Microsoft Teams by each Applicator. In-person trainings will be given to each spray unit operator on how this data transfer is achieved. Additionally, the spray unit data transfer cheat sheet can be referenced at any time on each Applicator’s Pesticide iPad. Contact the DMF Program Administrator if a physical copy is needed.

If any needs arise with the spray units, it is the responsibility of the Applicator to coordinate with the DMF Program Administrator for replacement parts, needed alterations, unit malfunctions, data transfer questions, daily and weekly spray plan, or any other need.

VTrans Aviation will (for the time being) utilize the DMF spray unit(s) with two of their own certified pesticide applicators. DMF will assist Aviation at the discretion of DMF management and as time permits during the spray season.

## **F. CHEMICAL ORDERING & STORAGE**

The DMF Program Administrator will fund, track, and facilitate the ordering of all chemicals used by the Districts for ROW guardrail applications. A chemical contract exists for the purpose of acquiring all products listed on the VTrans pesticide permit. All pesticides residing in the District garage/office buildings will be stored properly within an adequate storage locker and labeled as such. These products must be locked away and accessible only to a licensed pesticide applicator. If the need arises to transport chemical, containers can be moved via the locked cab of a truck, in a truck bed only if a locking cover is present, or inside of a car that will always remain locked. Only a certified pesticide applicator may transport chemical. Chemical may be redistributed as coordinated by the DMF Program Administrator from one District to another based on demand and excess chemical being stored.

## **G. USAGE & VIOLATION REPORTING**

Tracking material usage must be an essential activity to stay in compliance with AAF&M regulations and to monitor cost and cost savings for the VTrans Pesticide Program. Per the VTrans Pesticide Permit, all chemical usage by a certified applicator must be reported to AAF&M on a weekly basis. Weekly usage reports must also be sent to the DMF Program Administrator for compiling yearly usage data. Location and timing must also be reported weekly to the DMF Program Administrator to keep track of seasonal spray progress and stay in the loop.

Potential spray violations including overspray, spraying within a surface water or well buffer, and spills must be self-reported to both the DMF Program Administrator and the AAF&M. Being proactive in self-reporting violations is not only the right thing to do, but also will maintain a healthy relationship with the AAF&M and keep cooperation between the two Agencies at a maximum. Agency contacts are as follows:

- AAF&M for Spray Reports and Violations: Morgan Griffith, [morgan.griffith@vermont.gov](mailto:morgan.griffith@vermont.gov), (802) 279-9395.
- VTrans DMF Pesticide Program Administrator Contact for Spray Reports and Violations: Jennifer Callahan, [jennifer.callahan@vermont.gov](mailto:jennifer.callahan@vermont.gov), 802-498-4947.

**SOP edits must be coordinated with AAF&M for approval only by the DMF Program Administrator after consultation with internal stakeholders and Division Director.**